NETWORK FOR DISTRIBUTION OF RE-TARGETED ADVERTISING

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This is a continuation of U.S. Patent Application No. 09/362,008, filed July 27, 1999, now pending, which claims the benefit under 35 U.S.C. § 119(e) of U.S. Provisional Application No. 60/095,146, filed August 3, 1998. This application further claims the benefit under 35 U.S.C. § 120 of U.S. Patent Application No. 09/094,949, filed June 15, 1998, now pending, which claims the benefit under 35 U.S.C. § 119(e) of U.S. Provisional Application No. 60/048,940, filed June 16, 1997, and U.S. Provisional Application No. 60/049,877, filed June 17, 1997.

Field of the Invention

[0002] This invention relates to methods of delivery of advertisements and measuring responses to those delivered advertisements, and in particular relates to the targeting of advertisements delivered over networks such as the internet.

Background of the Invention

[0003] In advertising, it is considered highly desirable to target advertisements to the appropriate potential customer base, rather than to broadcast advertisements in general. It has long been known that, for example, advertisements for computers should generally not appear in magazines on gardening and, conversely, advertisements for gardening tools should not appear in magazines on computers. Similarly, advertisers have generally targeted their advertisements on television to programs appropriate for the desired customer base.

Internet Advertising

[0004] The recent development of on-line networks, such as America On-Line, Compuserve, and the Internet, has led to "on-line" advertising. For example, on the Internet, often such on-line advertisements will appear on a web page, such as an ad banner on the top or the bottom of the page. When the user views a web page using a browser such as Internet Explorer or Netscape, the ad banner appears at the appropriate location. The user may then try to find out more information regarding the advertisement by selecting the advertisement (clicking through on that banner) by the use of the mouse or other pointing device. Clicking on an ad banner (click through) causes an HTTP message to be generated by the browser using the information encapsulated in association with the ad banner. Click through sends a request for an object with a given URL address to a different appropriate web site to access, for example, the advertiser's home page.

[0005] Nonetheless, such ad banner advertising has had, so far, a poor rate of response because it is untargeted advertising. Thus, someone who is totally uninterested in computers other than they happen to be on the Internet, may continually see advertisements for computers. On the other hand, someone who is interested in computers may continually see advertisements for gardening tools when browsing through a particular web site. Thus it is highly desirable to have a method of targeting the advertising to the appropriate user. In addition, it is also important for the advertisers to track response to the advertisements and to acquire as much information about those people responding to the advertisements for targeting those same people at later dates.

Advertising Server Technology

Targeted Advertising

[0006] Targeted advertising is the selection of advertising based on some characteristic of the viewer. For example, displaying an ad at a particular time of day in a certain web site relies on the demonstrated demographics of the viewership for that web site at that time of day. Various criteria for selection of targeted advertising include:

1. The number of times the advertisement has been previously viewed by the user,
2. the user's ID,
3. the user's IP address,
4. the user's cookie,
5. the user's login code,
6. the user's digital certificate,
7. the user's geographic location,
8. the user's time zone,
9. the user's country,
10. the user's domain type,
11. the user's Internet service provider,
12. the user's organization type,
13. the user's employer,
14. the user's industry type,
15. the user's company size,
16. the user's number of employees,
17. types of advertisements previously viewed by the user and
18. types of advertisements previously clicked by the user.

[0007] To deliver targeted advertising on the Internet, an advertising server is provided as a node on the network. The various advertising banners are stored on the network advertising server. When a user using a web browser accesses a web page that is affiliated with the advertising server (an affiliate web site), the affiliate's web page encoding includes an embedded reference to an object provided by the advertising server. The imbedded reference causes the user's browser to contact the advertising server to provide the advertising image or information that will appear on the accessed web page as displayed by the user's browser. Using the address information and/or other information passed by the user's browser to the advertising server, including the page being accessed by the user, the advertising server determines an appropriate advertisement to select for the particular user.

[0008] If the user decides to respond to the advertisement selected by the advertising server by clicking on the ad banner, the advertising server logs the fact of click through in order to have more information about the given user and to collect statistics on the effectiveness of the advertisement. A process derive for deriving a user profile is used for compiling information on users of TCP/IP networks for use by the advertising server. By compiling the information on networks and user selections, the advertising server is able to compile information that can be used for targeting advertising.

[0009] Also in response to user click through, the advertising server provides the URL of the advertiser's web site to which the selected banner relates. Thus, a system comprising the user's browser, one or more affiliate web sites, one or more advertiser web sites and at least one advertising server, form a network for the distribution of targeted advertising from the advertiser to the affiliate and ultimately to the viewer. The terms "advertising server" and "advertisement server" are used interchangeably herein to refer to a server on a network that selects an advertisement for display to a user.

[0010] For targeted advertising, past behavior of other users are used to gauge the effectiveness of advertising. Banner ads that were not clicked on are less likely to be selected for display to other users in the future, while banner ads that had a high click through rate are more likely to be selected for display to others in the future. Direct ads that do not result in a sale are less likely to be selected for display to other users in the future, while direct ads that do result in a sale are more likely to be selected for display to others in the future.

[0011] In a similar fashion, behavior at the advertiser's web site is used to gauge the effectiveness of the advertiser's web pages. Web pages that promote responses (further browsing, making a purchase or providing information) are more likely to be used in the future, while advertiser web pages that are not effective in promoting a response are less likely to be used by the advertiser in the future.

Summary of the Invention

Re-targeted Advertising

[0012] While targeted advertising uses past actions of other viewers to select a present ad, re-targeted advertising uses the past responses of the present viewer to select a present ad. In comparison to targeted advertising in which an ad is selected based on responses of other viewers, re-targeted advertising is history specific to the present user. The present invention is embodied in a system by which present viewers who have been previous viewers of untargeted (or targeted) advertising, are re-targeted based on their past response to the prior (targeted or untargeted) advertising. More specifically, the present invention is embodied in a system whereby a new follow up (re-targeted) advertisement from a specific advertiser who targeted that viewer previously, is selected for that viewer based on the viewer's own past behavior at that specific advertiser's web site.

[0013] To implement re-targeted advertising, a list of actions of each visitor at each advertiser's site is collected and reported back to the advertisement server. In one embodiment, the advertiser's web site reports activity in real time. In another embodiment, the advertiser's web site keeps a user log file of visitor activity and reports the user log file back to the advertisement server. Reporting of user log files may be by email or any other file transfer technique back to the advertisement server, where the user log files and other user data are merged.

[0014] Reported advertising log files and other user data form a database at the advertisement server, used for selecting re-targeted advertising. Advertisements based on prior behavior of the current viewer are selected based on a variety of criteria. Various criteria for selection of re-targeted advertising include:

1. whether there was no purchase made after several recent visits,

2. whether there was no purchase made but a specific product or product category was reviewed,

3. whether there have been many recent purchases made at the advertiser's web site,

4. whether there have been prior purchases or visits made some time ago, but no recent purchases or visits made at the advertiser's web site, and

5. whether the user has registered at the advertiser's web site.

[0015] Using one or more of each of the foregoing criteria, a re-targeted ad is selected by the advertising server for display at the user's browser. Re-target ads may be any of:

1. mailing a special coupon for a given product to prior visitors who have looked at web pages for such given product, but have not purchased,

2. sending a reminder message to past purchasers who have not purchased in the last 90 days, or

3. sending a reminder message to the top 10% of an advertiser's customers.

[0016] As a result of collecting user activity lists, the data is mined for prospects for future advertisements. A configured list of users is selected and stored for future re-targeting. Then, when the advertising server receives a request to select an advertisement, it checks the user identity in a look up table to see if the user has been previously selected for re-targeting. If the user is on the previously configured list, a re-targeted ad is selected.

Brief Description of the Drawings

[0017] Figure 1 is a block diagram of a system for automatic placement of re-targeted advertisements in accordance with the present invention.

[0018] Figure 2 is a block diagram illustrating two alternate embodiments of a data collection system for reporting user activities at an advertiser's web site to an advertising server in accordance with the present invention.

[0019] Figure 3 is a block diagram illustrating the selection of re-targeted advertisements from past user activity.

Detailed Description

[0020] A network in accordance with one embodiment of the present invention is shown in Figure 1. In particular, a system for the delivery of advertising over networks includes a user with a browser 10. The system includes at least one affiliate web site 12. An affiliate web site is a publisher or other content provider having advertising space 20 to fill. Central to the ad network system is an advertising server 14, which includes a predictive model and algorithms for selection of advertising in accordance with various criteria. The advertising server 14 further communicates with a database 24, which contains the activity history of users on various web sites. Also part of the system network is one or more advertiser web sites 16. Advertiser web sites can be generalized as any type of commerce engine. An activity list (lists of user activities at the advertiser's web site) are compiled in the advertising web site 16. A feedback path 18 permits the advertiser web site to communicate the activities of visitors at the advertiser's web site 16, back to the advertising server 14.

[0021] The feedback path 18 may be achieved by a number of alternative mechanisms. For bulk feedback of data accumulated in a user activity list, the advertiser periodically emails the information directly, or transfers it in bulk form in a file transfer operation. Activity list updates are performed as often as necessary, and may even be reported at the conclusion of each individual visit.

[0022] In a second embodiment, feedback of individual activities of the user at an advertiser site 16 may be communicated in real time back to the advertising server 14 using by spotlight tags placed on specific pages in the advertiser's web site. A spotlight tag is a minimal graphic (e.g., a one pixel image) containing a redirect message back to the advertising server 14. Spotlight tags are placed on web pages by the advertiser and contain other imbedded information such as information identifying the specific advertiser web page (as for example, identifying a purchase confirmation page stating "thank you for your order" etc.)

[0023] When the user requests (i.e., visits) an advertiser page containing a spotlight tag, a reply message 15 redirects the users browser 10 back to the advertising server 14 via request 13 to access the minimal one pixel graphic image. The requested image is not significant to the event. However, by this process, the advertiser web site 16 provides real time reporting of user activities while the user is in the advertising web site 16. The advertising server 14 assembles the activity list for each user. In yet another alternative embodiment a specially configured proxy server is interposed between the user's browser 10 and the advertiser's web site 16. The proxy server intercepts, interprets and monitors transactions between the user's browser 10 and the advertiser's web site 16.

[0024] In operation, when a user browsing on the Internet accesses an affiliate's web site 12, which would typically include media content and advertising space 20, the user's browser 10 generates an http message to request the information from the desired web page. In response to the http message, the affiliate's web site 12 transmits one or more reply messages back to the user's browser 10 containing the information to be displayed to the user 10. In addition, for the content of the advertising space 20, the affiliate web site 12 forwards a redirect message containing the URL of the advertising server 14. The browser is redirected to the advertising server 14 which selects an appropriate advertisement for the advertising space 20.

[0025] At the advertising server 14, a banner advertisement to be displayed in the advertising space 20 is selected from a local database 24 containing advertising information and user data. The selected ad banner is then displayed to the user. Upon clicking through when the user selects the advertising banner 20, the browser 10 is connected to the advertiser's web site 16. Targeted advertisements are ads selected by identifying the user and matching an advertisement to the user, based on various criteria. Re-targeted advertisements are selected by matching past behavior of a particular user to that particular user's past activities.

[0026] Two of the ways of collecting past user activity are illustrated in Figure 2. An advertiser web site comprises linked pages such as a home page 28, one or more product description pages 30, one or

more registration pages 32, one or more purchase order pages 34 with corresponding purchase confirmation pages 40. Each of the advertiser web pages include a corresponding spotlight tag. For example, product description page 32 has a tag 31, registration page 32 has a spotlight tag 31, purchase order page 34 has spotlight tag 35, and confirmation page 40 has a spotlight tag 41.

[0027] When the viewer accesses any page having at spotlight tag 31, 33, 35 and 41, a reply message back to the browser 10 redirects the browser to send a message 13 back to the advertising server 14. Receipt of the message 13 back at the advertising server 14 in effect, reports (in real time) to the advertising server that the user has accessed the a respective page while browsing at the advertiser's web site. Reported user activity is stored in the local database 24 for further processing.

[0028] Alternatively, the user activity list 42 is compiled at the advertisers web site. The activity list is reported back 44 to the advertising server 14 by email or ftp (file transfer protocol).

[0029] User privacy is preserved because the user is never specifically identified. The user ID in table 42 is typically assigned arbitrarily using cookie enabled browser features. At no time is any personally identifiable information stored in the server or used for contacting an individual.

[0030] Use of the user activity list to generate and distribute re-targeted advertisements is illustrated in figure 3. Past user activity is stored in an activity table 63 (part of database 24 in figure 1). The stored data is evaluated and matched to selection criteria at step 66 to determine those users suitable for re-targeting. An example selection criterion is a screen meeting the following parameters: users who looked at product X description at a given web site at least twice in the last two weeks, but did not purchase. The result of the selection criteria step 66 is to generate a list of user ID's suitable for future re-targeting. The derived list of candidate user ID's is stored in a lookup table 64.

[0031] In operation, a user browser 10 (illustrated as user 123) visits a affiliate web site, such as AltaVista 50, Travelocity 54, Dilbert 56 or any of 60+ other affiliated web sites on the network. The ad

banner space 52 contains a redirect to the advertising server (14 in figure 1) where an ad banner corresponding to a selected advertiser will be selected for delivery to the AltaVista web page.

[0032] At the advertising server the user ID is determined at step 62. The user ID is looked up in the list of user ID's pre-selected for a re-targeted advertisement. If the user is found in the table 64 as having been pre-selected, then the pre-selected ad banner is delivered to the AltaVista web page. For example, a discount coupon for product X may be delivered.

[0033] In such manner, past activities of users is used as a criteria for selection of re-targeted advertising.